Level 1 Consultation Project Information Form (PIF-BA)
Carr-Delta Fire Road Maintenance Project (Carr-Delta Project)
Shasta-Trinity National Forest

Note: If the FS and FWS biologist agree that the effects of the proposed action on listed species or critical habitat can be described sufficiently using this format, than this PIF may be used as a short-form Biological Assessment (PIF-BA). The determination of its use as a PIF BA requires L1 discussion of the project's complexity, scale, intensity, and effects. The Forests are encouraged to include any additional relevant information when submitting it for L1 review and discussion.

June 13, 2018 version 1.1

Planned Use: PIF ☐ PIF-BA ☒

If using form as a PIF, only complete basic relevant information. If submitting as a PIF-BA, provide short rationale below:

Hazard tree removal for this project will occur largely in unsuitable habitat, where 50-100% of basal area was lost as a consequence of high-severity effects of the Carr and Delta fires of 2018 (Tables 1a-c). In suitable habitat, treatment of hazard trees will consist largely of fell and leave that will benefit and/or maintain residual NSO prey habitat in the project area by adding large coarse woody debris. USFS and USFWS Yreka office staff toured proposed units in the burned area on November 16 and December 21, 2018. It was mutually agreed on the December 21, 2018 site visit that the PIF-BA was a suitable BA format for this project. FS/USFWS Level 1 staff met on October 31, 2018, and on February 21 and March 6, 2019 to discuss project design. USFWS staff attended most IDT meetings and check-in calls to provide input as the proposed action and resource protection measures were developed.

IPaC List Date (*Attach as an Appendix if submitting as a PIF-BA*): March 6, 2019

Listed Species & Critical Habitat Considered for Consultation[1] from Appendix A (*check all that apply and add species based on your project IPaC list if not included here*):

- Northern spotted owl ☒	Northern spotted owl critical habitat ☒
- Marbled murrelet ☐	Marbled murrelet critical habitat ☐
- Gray wolf ☒	**OR** under Programmatic BA and separate tiering form ☐
- Western yellow-billed cuckoo ☒	
- California red-legged frog ☒	Oregon spotted frog ☐
- Delta and Long-fin smelt ☒	Lost River sucker ☐
- Shortnose sucker ☐	Valley Elderberry Longhorn Beetle ☒
- Conservancy fairy shrimp ☒	Shasta crayfish ☐
- Vernal pool fairy shrimp ☒	Vernal pool tadpole shrimp ☒
- Yreka phlox ☐	Slender orcutt grass ☒
- Water howellia ☐	Hoover's spurge ☒
- Gentner's fritillary ☐	Mcdonald's rock-cress ☐
- Whitebark pine ☒	Pacific fisher ☒

[1] Based on March 6, 2019 IPaC species list for the Yreka Fish and Wildlife Office's jurisdiction with internal review.

List and Provide Rationale for Species & Critical Habitat Not Considered (*outside range, no suitable habitat in action area, not on project IPaC list, etc.*):

Gray wolf- No effect. Coordination with the California Department of Fish and Wildlife (CDFW) on March 1, 2019 (Lauden 2019) and review of the CDFW Conservation and Management of Wildlife website indicates that the project area is approximately 105 miles from the polygon indicated as the location of the nearest wolf pack (https://www.wildlife.ca.gov/conservation/mammals/gray-wolf). If new information from the State or other verified sources shows there are reproducing wolves within five miles of project activities, the Forest will contact USFWS for technical assistance and discuss the need for re-initiation of consultation.
Western yellow-billed cuckoo- No effect. The project is not within the known or expected species range and no suitable habitat is present (Hughes 2015).
California red-legged frog- No effect. The project is not within the known or expected species range (USDI Fish and Wildlife Service 2002).
Delta smelt & longfin smelt- fish species not considered in wildlife analysis
Valley Elderberry Longhorn Beetle- No effect. The project is not within the known or expected species range (USDI FWS 1984).
Conservancy fairy shrimp, Vernal pool fairy shrimp & Vernal pool tadpole shrimp- No effect. The project is not within the known range of these species and no suitable habitat is present (USDI FWS 2005).
Hoover's spurge, slender orcutt grass & whitebark pine- plant species not considered in wildlife analysis

Species not on IPaC list: See species list in Appendix A.

Fisher, or Pacific fisher (Pekania pennanti, formerly Martes pennanti)

On April 14, 2016, USFWS announced that the fisher does not warrant listing under the federal ESA (USDI Fish and Wildlife Service 2016a). On September 21, 2018, the Northern District Court of California vacated this "Listing Withdrawal" and ordered FWS to prepare a new final rule (*Center for Biological Diversity [and others] v. Ryan Zinke and Greg Sheehan*. 2018). Section 7(a) of the ESA requires that for proposed species, proposed activities will be assessed to determine if they are likely to jeopardize the continued existence of the species. If so, conferencing with USFWS is required. Under the ESA, jeopardy occurs when an action is reasonably expected, directly or indirectly, to diminish a species' numbers, reproduction, or distribution so that the likelihood of survival and recovery in the wild is appreciably reduced.

In the Car-Delta Project area, severe fire effects converted approximately 40% of all available habitat for forest-dendant species to non-habitat (Table 1b-c). The proposed road maintenance project will include the removal hazard trees from roadside areas only, and is not an area project that will treat the broader landscape. Due to the linear character of the proposed action, and the broadscale conversion of all habitat types to non-habitat as a consequence of the 2018 fires, the proposed action is not likely to jeopardize the continued existence of the fisher. The fisher remains a US Forest Service Region 5 Sensitive species, and potential effects to this species are analyzed in the project wildlife Biological Evaluation.

Project Name: Carr-Delta Road Maintenance Project

Date PIF Submitted to Level 1: May 6, 2019
Submit PIF two weeks prior to L1 meeting

Level 1 PIF Presentation Date: Click here to enter a date.N/A

Provide rationale below for using the PIF as a PIF-BA: See Cover Page, Draft PIF-BA submitted on May 6, 2019.

Estimated Draft BA Submission to L1 Bio if submitting a separate BA: N/A
Allow two weeks for Draft BA review by L1 bio, subject to modification per agreement based on workload

Ranger District / Management Unit: Weaverville Ranger District/Trinity River Management Unit

Project Biologist: Ann Bowers

Project Leader: Stephanie Riess

Expected NEPA Documentation: **Categorical Exclusion** ☒ **EA** ☐ **EIS** ☐

Expected NEPA Completion Date (month/year): May 19

National Fire Plan or Healthy Forest Restoration Initiative project (HFRA): **Yes** ☐ **No** ☒

Attach map(s) of the project and expected action area (1:24,000 scale)

Legal Location: Township 35 & 36 north, Range 6 west, Townships 34 & 35 north, Range 7 west, and Township 34 north, Range 8 west, Township 33 north, Range 5 west, and Townships 36 north, Range 5 & 6 west, Mt. Diablo Meridian. See Appendix B for maps of project action area.

Brief Description of Project

The purpose of this project is to address the current maintenance needs of selected roads within the Carr Fire and Delta Fire footprints on National Forest System lands. In addition to the fire creating hazard trees along the roads, the fires have resulted in numerous hazardous conditions to the roadway itself. Additional hazardous conditions are expected to emerge post-fire with the arrival of seasonal storms and deterioration of root systems.

Road maintenance activities may occur on all National Forest Transportation System (NFTS) roads, as well as roads managed by other jurisdictions that cross Forest Service managed lands. Felling and removal of hazard trees will be restricted to lands managed by the Forest Service. Roads to be treated are NFTS roads categorized as level 2, 3[2]. National Forest System roads categorized as level 1 roads[3] will be treated if they are a cost share road or if the road is needed for project implementation (access).

[2] Level 2 roads are open for use by high clearance vehicles. Passenger car traffic, user comfort, and user convenience are not considerations. Traffic is normally minor, usually consisting of one or a combination of administrative, permitted, dispersed recreation, or other specialized uses. Level 3 roads are open and maintained for travel by a prudent driver in a standard passenger car. User comfort and convenience are not considered priorities.

[3] Level 1 roads are those that have been placed in storage between intermittent uses. Basic custodial maintenance is performed to prevent damage to adjacent resources and to perpetuate the road for future resource management needs. These roads are not shown on motor vehicle use maps. While being maintained at level 1, they are closed to vehicular traffic but may be available and suitable for nonmotorized uses.

The following activities are proposed to address these purposes: blading; brushing; felling and removal of roadside hazard trees; repair and/or improve road surfaces; cleaning, repair, or installation of drainage structures such as culverts, ditches, catch basins, and dips; dust abatement; removal and installation of closure barriers, installation or repair of signs, and treatment of activity created fuels. The following approximate number of miles (by road level) will be treated, for a total of 177 miles.

- 8 miles of level 1
- 165 miles of level 2
- 4 miles of level 3

The identification of hazard trees will follow the Region 5 Hazard Tree guidelines[4]. The hazard tree falling area will extend up to 300 feet from the road edge on the uphill side and down to 150 feet from the road edge on the downhill side of each road treated. Hazard trees will be felled on approximately 4,263 acres along 79 miles of road.

Commercial wood products will be removed on approximately 1,952 acres along 35 miles of road within the 79 miles described above where feasible utilizing ground based and/or cable logging systems. Landings and skid trails are critical for handling and storing woody material prior to hauling; they will be utilized and created to facilitate wood product removal. Some native surface roads may be used to skid logs. Temporary roads may be needed to access landings, and will be decommissioned after use. Level 1 roads needed for project implementation will be closed after use.

Activity created fuels[5] will be treated using a combination of hand, mechanical, and prescribed fire treatments.

Connected Actions: all proposed activities are part of the proposed action. There would be no new permanent road construction.

Estimated Implementation Start and Completion Dates or Season
For project activities that may impact listed species or their habitat

Implementation may start as early as 2019. It is anticipated that unit treatments could continue for 10 years and potentially longer. Multiple entries may be necessary to remove merchantable and non-merchantable hazard trees and treat activity generated fuels. *Where applicable, a NSO Limited Operating Period (LOP) for smoke and noise disturbance will be required for project activities in unsurveyed Core Areas/Activity Centers. Refer to the **Wildlife Resource Protection Measures** (RPMs) section for a detailed description of LOPs.

Action Area Spatial Bounding and Rationale for All Listed Species (*may differ by species or project actions*)

Due to (1) severe effects on NSO habitat and the wide-spread mortality of forest stands in the 2018 Carr/Delta fires, and (2) the linear nature of the project area, the Action Area consists of a 0.5 mile buffer, the radius of a NSO Core Area, around all roads where maintenance will occur, including units where concentrations of hazard trees present a public safety risk on roads in the proposed action. This spatial area bounding and rationale for NSO was agreed upon by FS and USFWS Level 1 staff for this project at the February 21, 2019 meeting.

[4]P. Angwin, D. Cluck, P. Zambino, B. Oblinger, W. Woodruff. April 2012. Hazard Tree Guidelines For Forest Service Facilities and Roads in the Pacific Southwest Region. Forest Health Protection Pacific Southwest Region (Report # RO-12-01).

[5] Fuels created from falling of hazard trees.

General Habitat Conditions in Action Area for Listed Species
Describe conifer, hardwood, shrub species, plantations or natural stands, presence of water, meadow habitat, other pertinent information for those species included in the planned consultation

*Proposed units in the Action Area occur within Core Area/Activity Centers with suitable and dispersal NSO habitat.
*Proposed units and road maintenance activities will also occur within NSO critical habitat.
For a more detailed description of existing conditions, please refer to **NSO Action Area Existing Conditions**.

Summarize Data from Common Stand Exams or Quick Plots (*include this information for a PIF-BA*)
Attach and/or describe below a summary of stand conditions. If stand exam data is available at the time of PIF submittal, include this information if using this document as a PIF-BA or provide at a later date. Include information on species, QMD, age class, basal area, TPA, snags per acre, snag QMD, large log size class and tonnage per acre, information on smaller CWD levels from Browns Transect data. If none of this information is available, describe based on field review and silviculturist or fuels specialist knowledge.

Timber specialist input for hazard trees proposed for removal (pre-cruise plots) has been conducted. The cruise design is being developed and has not been fully implemented at this time. Hazard trees will be selected by prescription in accordance with *Hazard Tree Guidelines for Forest Service Facilities and Roads in the Pacific Southwest* (Angwin et al, 2012)

Although no live stand exams have been conducted, the pre-cruise data for hazard tree removal is a reasonably accurate reflection of residual live tree species composition, structure, and abundance. Additional descriptions of the project area are derived from the CDFW Wildlife Habitat Relationships database and from sources listed below in **Methods, Data, Sources, and Assumptions**.

Methods, Data Sources, Assumptions
Describe all methods, data sources, assumptions for quantifying and qualifying the existing condition and expected effects (NAIP, eveg data, field review, etc.).

Current NSO habitat conditions were classified and quantified using a combination of the best available information, including E-veg (2007), aerial imagery, RAVG, the newly revised NSO Baseline (USFWS 2018), and field observations. Sources of NSO data (Activity Centers, nest sites, observations, etc) include the Forest Service NRIS/NRM database and the State California National Diversity Database (CNDDB). NSO data was also obtained from Sierra Pacific Industries (SPI) NSO survey results in the Action Area.

Other Projects
List all ongoing Forest Service projects or activities within the action area (those with signed Decisions that have not yet been implemented or that are ongoing)

No ongoing or proposed projects within the Action Area.

Activity Type(s) – *Indicate each type of activity, acreage, and general information for which consultation is being requested. Information must be as complete as possible if utilizing this document as a PIF-BA.*

Hazard Tree Removal	Roadside Hazard Tree Removal Action Area = 4,263 acres
	Systems (*whole tree / cable yard / cut-to-length / other*): whole tree yarding, cable yarding, cut to length by hand.
	Equipment: chainsaw, excavator, dozer, tracked chipper, cable yarder, rubber tired skidder, masticator
	Season of Work: Generally, units within NSO unsurveyed Core Area/Activity Centers will be implemented July 10-January 31. For units where surveys will be conducted, refer to **Survey History** and **Current Survey Plan**.
	Hazard abatement: YES. Snags that pose a safety hazard to the public or to implementation staff.
	Only hazard trees will be felled and either removed as merchantable timber or biomass (1952 acres); or left on site as coarse woody debris (CWD) (2311 acres). There are existing landings within the project area that will be utilized for implementation. If new landings are needed, they will be created outside of NSO nesting/roosting habitat as feasible, or if new landings are constructed within these habitats, green trees greater than 24" DBH will be retained.
Prescribed Fire	Ignition Method: drip torch, fuse, vary pistol
	Activity / Acres: Control line construction within/around the broadcast burning area will require 2 foot wide hand lines and/or 10 foot wide dozer lines. Control lines may not be required if weather conditions permit prescribed fire activities without line construction. Control line preparation (along hand lines, dozer lines, and roads used for control) may include felling and leaving hazard trees, cutting brush and pruning trees to a height up to 8 feet, handwork, lop/scatter, and pile burning. Prep would occur within (up to) 25 feet from hand lines and within (up to) 25 feet from dozer lines and roads used as control lines. Prep would only occur on the fire-side of the lines.
	Acres of Treatment: up to 4263 acres for activity generated fuels (to be determined as needed)
	Season of Work: Generally, units within NSO unsurveyed Core Area/Activity Centers will be implemented in late fall/early winter through January 31. For units where surveys will be conducted, refer to **Survey History** and **Current Survey Plan**.
Mechanical Fuels Treatment	Systems (*machine pile / hand pile / mastication / lop/scatter with chainsaw / other*): machine pile, hand pile, mastication, lop/scatter, pile burn, jackpot burn, broadcast burn, prune, utilization (firewood)
	Acres: up to 4263 acres for activity generated fuels (to be determined as needed)
	Equipment: chainsaw, dozer, tracked chipper, drip torch, hand tools
	Season of Work: Generally, units within NSO unsurveyed Core Area/Activity Centers will be implemented in late fall/early winter through January 31. For units where surveys will be conducted, refer to **Survey History** and **Current Survey Plan**.
Road Maintenance	Activity (*new construction, maintenance, decommissioning, other; also if using as a PIF-BA, provide information on estimated temp roads*): reconstruction, maintenance including culvert upgrades, temp road building and decommissioning. There will be no new road construction.
	Estimated miles of treatments / road types: A mileage estimate of temp roads required for this project is undetermined at this time. No temp roads are proposed in NRF habitat. If new temporary roads are needed, they will be created outside of NSO nesting/roosting habitat as

	feasible, or if new temp roads are constructed within these habitats, green trees greater than 24" DBH will be retained. An undetermined amount of legacy sediment sites have been proposed for treatment (includes culvert upgrades or removal, installing rolling and critical dips, water bars, and/or cross-drains). Many legacy sites have already been treated during BAER activities in the Action Area.
	Equipment: Heavy equipment such as dozers, graders, dump trucks, excavators
	Season of Work: Road work activities would not impact NRF habitat but may cause a noise disturbance. If loud and continuous noise will occur (2 or more hours per day in a given location) within 0.25 miles of unsurveyed NRF, the season of work would be July 10-January 31. For road maintenance where surveys will be conducted, refer to **Survey History** and **Current Survey Plan**.

Species Information

NSO Survey Information

1) Are or will surveys be completed per the 2012 protocol? **Yes** ☒ **No** ☐
2) Describe the Survey History and Current Survey Plan below:

Survey History:

SPI has conducted 2-year protocol level NSO surveys prior to the 2018 Carr and Delta fires throughout the project area in 2017 and 2018. STNF coordinated with SPI in the fall and winter of 2018-2019 to acquire presence and status information for territories in the project area. SPI will continue to survey the area in 2019. STNF will continue to coordinate with SPI to determine where surveys will be conducted in the Action Area for the duration of this project.

Current Survey Plan:

Due to the fragmented condition of residual post-fire habitat in the project area, Core Areas/Activity Centers will be the focus of surveys for the duration of this project. Using the best available information, including site visits to the project area, Core Areas are classified into 3 categories based on residual habitat and history of occupancy as having **(1)** a high likelihood, **(2)** a low likelihood, or **(3)** no reasonable likelihood of supporting nesting owls. Core Areas are buffered by 0.5 miles from the Activity Center or Centroid. Surveys or spot checks, as appropriate and by agreement with FS/USFWS Level 1 staff, will be conducted to determine NSO occupancy and nesting status within Core Areas with sufficient habitat to warrant some likelihood that NSO may be present during the nesting season, as follows:

(1) Core Areas/Activity Centers with a history of occupancy during the prior 2 years of full protocol surveys in 2017/2018, and sufficient suitable habitat remaining after the Carr/Delta fires to support the likelihood that NSO may return during the expected duration of approximately 10 years for this proposed action.

(2) Core Areas/Activity Centers with a history of occupancy during the prior 2 years of full protocol surveys in 2017/2018, with low levels of suitable habitat remaining after the Carr/Delta fires and a reduced likelihood NSO may return during the expected duration of approximately 10 years for this proposed action.

(3) Core Areas/Activity Centers that have been converted to unsuitable habitat following the Carr/Delta fires with no reasonable expectation that NSO will return during the expected duration of approximately 10 years for this proposed action. Refer to the Core Area map in Appendix B.

Where applicable, limited operating periods (LOPs) will be implemented to avoid potential impacts to NSO: Refer to Appendix B for NSO Core Areas where LOPs will apply in the project area.[6]

LOPs for this project are for noise and smoke disturbance only. This LOP, where operations are prohibited, runs from February 1st to July 9th in unsurveyed NSO Core Areas in the Action Area.

Spot checks may be conducted for two years after full 2-year protocol surveys have been completed (USFWS 2012). Generally, spot checks are conducted between March 15th and April 15th, or as access permits.

I) For the 2019 implementation season, STNF will not conduct spot checks for units in Core Areas. Implementation will not commence in these units until July 10th or thereafter, when the LOP for noise and smoke has lapsed for the season.

II) For the 2020 implementation season:

- In Core Areas **SHA0035 and SHA0107**, the LOP applies unless and until spot checks indicate there is no nesting activity. If spot checks indicate no nesting activity, implementation can resume as early as April 15th, or when spot checks are completed during a 4-week time period agreed to by FS/USFWS Level 1 staff. If spot checks detect nesting activity, work will not begin until July 10th.
- In Core Areas **SHA0020, SHA0103, SHA0121, and SHA0125**, implementation may proceed concurrently with spot checks. Work will be suspended through July 9th if spot checks indicate that nesting activity is occurring.

III) In subsequent implementation years for this project, either spots checks or full surveys may be required for Core Areas, as agreed by FS/USFWS Level 1 staff prior during any calendar year where implementation is planned to occur.

[6] Activity Centers are at the center of Core Areas.

NSO Disturbance Information

1) Is there Potential for Noise or Smoke Disturbance*? **Yes** ☒ **No** ☐

Review Criteria	**YES**	**NO**
Known NSO Core Areas/Activity Centers overlapping with project units and road maintenance activities	X	
NSO suitable habitat within 0.25 mile of planned activity and surveyed to protocol (2017/2018: Refer to **Survey History and Current Survey Plan**)	X	
Unsurveyed suitable habitat for NSO within the Action Area (2019: Refer to **Survey History and Current Survey Plan**)	X	

2) Is blasting of rock proposed? **Yes** ☐ **No** ☒

3) Is helicopter use proposed? **Yes** ☐ **No** ☒

4) Describe the expected noise below (*cutting, processing and haul of logs, helicopter use, blasting, road maintenance or construction/reconstruction, etc.)? If blasting or helicopter usage is planned, provide maps of locations and estimated flight paths, if available:*

Expected noise includes cutting (chainsaws, weed whackers), processing and hauling of logs, chipping, dozer line construction, road maintenance including culvert upgrades, temporary road building and decommissioning. There will also be smoke generated from broadcast burning, pile burning and jackpot burning.

Road maintenance activities that do not generate loud and continuous noise for more than two hours are not considered for noise disturbance to NSO. Where road maintenance activities are expected to generate loud and continuous noise for more than two hours, a 0.25 mile buffer for noise disturbance will be applied only if NSO habitat within that buffer is unsurveyed.

**Note that for a 'May Affect, Not Likely to Adversely Affect' determination, seasonal restrictions are required for activities that would generate sound levels 20 or more decibels above ambient sound levels; or for activities that would generate maximum sound levels above 90 decibels, excluding vehicle back-up alarms. Maximum sound levels are the combined ambient and activity-generated sound levels.*

Proposed Seasonal Restrictions for Hazard Tree Removal and Fuels Reduction in Core Areas/Activity Centers, and for Road Maintenance throughout the Action Area (*check all that may apply*)

Dates	**YES**	**NO**	**List Applicable Units** *(if using this as a PIF-BA)**
None	X		Activities that do not impact NRF habitat and do not generate loud and continuous noise and/or smoke (2 or more hours/day), including road work that is transitory (does not remain in one location).
2/1 to 7/9	X		Units/activities where loud and continuous noise or smoke-generating activities may occur within occupied or unsurveyed Core Areas/Activity Centers.

*****See Appendix C for list of project units with LOPs

NSO Action Area Existing Conditions

Define the action area bounding (are you utilizing a 'disturbance-only' buffer or a larger spatial extent due to habitat modification?). Describe the suitable and critical habitat conditions in the Action Area (i.e., stand / forest types, tree species, QMD, basal area, canopy closure for NRF and Dispersal). For critical habitat, include a description of PBF 1 if you have determined that this PBF of critical habitat exists in the action area:

The footprint of the Carr and Delta wildfires encompassed a widely variable vegetative landscape. Within the approximately 4,500 acres of potential treatments analyzed along roads associated with the Carr/Delta Road Maintenance Project, the majority of area (81%) incorporates lands forested primarily with conifer trees (see Table 1 below).

Table 1a. Vegetation Composition across Project Treatment Area using WHR Type (Existing Vegetation, version 2016)

VEGETATION TYPE	Acres
Conifer Forest/Woodland – 81%	**3655**
Mixed Conifer	2603
Douglas-fir	1011
Ponderosa Pine	41
Hardwood Forest/Woodland – 10%	**453**
Montane Hardwood	453
Shrub and Chaparral – 7%	**289**
Montane/Mixed Chaparral	289
Herbaceous – 2%	**102**
Perennial Grasses and Forbes	47
Annual Grasses and Forbes	55
TOTAL AREA	**4,499**

Within these vegetation types, a mosaic of size classes and densities are present. Due to limited forest management in the recent past and 100 years of fire suppression, vegetative conditions were relatively dense. Nearly 90% of the total area was estimated to have over 40% canopy closure prior to the Carr and Delta fires. In addition, nearly 80% of the total area includes trees over 11-inches in diameter (generally located within the conifer and hardwood vegetation types).

A much smaller area has been identified for removal of hazard trees. These are areas along roads composed of larger (greater than 11-inches diameter at breast height) conifer trees in a stand that burned at a higher intensity resulting in larger-scale mortality within the stand. Preliminary data within portions of these areas indicate the species composition includes Douglas-fir (69%), ponderosa and sugar pines (28%) with minor occurrences of incense cedar and white fir (3%). Across all species, there is considerable variation in size with the average size consisting of approximately 16.5-inches diameter at breast height and 75-feet tall. The largest extent of the sampled range of hazard tree sizes included a Douglas-fir statistical outlier with a diameter at breast height of 72-inches and a height of 186-feet tall. Averaged across all sampled plots, these stands include about 115 trees per acre and 180 sq. ft/acre (basal area).

For acreages of suitable habitat in the Action Area by treatment type, see Table 3b. For acreages of suitable habitat in the Action Area by treatment type, see Table 5b.

Effects of the 2018 Carr and Delta Fires

Rapid Assessment of Vegetation Condition after Wildfire (RAVG) data are remotely sensed vegetation burn severity data derived from Landsat Thematic Mapper imagery. The pre-fire and post-fire sub-scenes are used to create a Relative Differenced Normalized Burn Ratio (RdNBR). The RdNBR is correlated to the variation of burn severity within a fire. The RdNBR data are calibrated with the Composite Burn Index (CBI) as well as tree mortality variables. The severity ratings provided by the derived products are based on the vegetation burn severity.

For reference, RAVG data was used to estimate loss of basal area in stands following the Carr and Delta fires of 2018. Loss of basal area is separated into four categories:

- Grid Code 1: 0-25%
- Grid Code 2: 25-50%
- Grid Code 3: 50-75%
- Grid Code 4: 75-100%

Table 1b contains incident acres and basal area loss by Grid Code resulting from the 2018 Carr and Delta fires.

Table 1b. Acres within the Carr/Delta Project and RAVG Grid Code classification.

Total acres: 4310	**Sub-totals**	**Hazard Tree Removal**	**Hazard Tree Fell and Leave**	**Road Maintenance**
Grid Code 1	2257	51	2155	51
Grid Code 2	368	323	27	18
Grid Code 3/4	1686	1578	38	70

For NSO habitat, Table 1c is a cross-walk between percent basal area loss and the resulting conversion, if any, of NSO habitat of one type to another, or to non-habitat.

Table 1c. Crosswalk between NSO habitat type and RAVG Grid Code classification.

Pre-fire Habitat Type	*Post-fire Conversion of NSO Habitat based on Percent Basal Area Loss*			
	Grid Code 1 0-25%	**Grid Code 2 25-50%**	**Grid Code 3 50-75%**	**Grid Code 4 75-100%**
Nesting/Roosting	Nesting/Roosting	Foraging	**Non-Habitat**	**Non-Habitat**
Foraging	Foraging	Foraging		
Dispersal	Dispersal	Dispersal		

Table 2. Existing Habitat Conditions in NSO Action Area

*Complete this information **as feasible for the Existing Condition**, as not all information may be available at time of PIF submittal and presentation. This information should be complete when submitting as a PIF-BA.*			
Habitat in 'noise/smoke disturbance' action area			**Describe activity(ies):** Hazard tree felling and removal or leave in place, chipping, pile and burning, jackpot burning, broadcast burning, dozer and hand line construction and prep, road work.
N/R ac	**Foraging ac**	**Dispersal ac**	
1298	514	493	

Habitat acres in action area *(0.5 mile buffer)*	**N/R**	**Foraging**	**Dispersal**	**Non-Habitat**
Total acres of habitat	9,119	3,822	6,705	24,624

Will Critical Habitat **BE TREATED**? (*if YES, complete subunit name(s) and acre(s) below for existing condition – if NO, do not fill out the information below as it is not relevant if CH is not treated*)	**Yes** ☒ **No** ☐
CH unit(s) and Subunits in action area (*add additional rows for the existing condition if more than one subunit is affected*)	Critical Habitat Unit Name: Interior California Coast Subunit Name: ICC 7

(0.5 mile buffer	***PBF 2 N/R***	***PBF 3 F***	***PBF 4 D***	***Non***
Total CH subunit acres in action area	5192	1377	1560	4148

NSO Habitat Modification Information

*If the proposed action is likely to result in noise or smoke disturbance **only, there is no need to complete this section – skip ahead to the ESA Cumulative Effects section and complete that**. If habitat modification will occur, complete all of the following information as feasible. If using this document as a PIF-BA, this information should be complete. A "Yes" response for downgrading or removal of habitat function requires additional information and discussion at L1.*

Review Criteria	**YES**	**NO**
1) Will proposed action benefit current non-habitat or suitable NSO habitat?	X	
2) Will proposed action degrade suitable NSO habitat *(even short term)?*		X
3) Will proposed action downgrade suitable NSO habitat?		X
4) Will proposed action remove suitable NSO habitat?		X
5) Will NSO habitat be benefitted in a core?	X	
6) Will NSO habitat be benefitted home range?	X	

*** If "No" to all of the above and just noise or smoke disturbance is expected, Tables 2-8 below can be deleted or left blank.*
If 'Yes' to any of the above, what are the expected impacts to NSO and/or habitat in the action area and the timeframes? *(Deconstruct actions and describe effects to NSO habitat and prey: thinning, fuels treatments, burning? Will effects be short or long term or both? Be sure to define the temporal bounding. Will there be extensive removal of snags or predominant / dominant trees? Are there overlapping treatments that may compound effects to NSO habitat or prey? What are the estimated size classes of snags and trees to be felled and removed, or thinned? Add any additional tables outside of those included below, as applicable. If there are design features that reduce impacts to habitat, note this and describe them on page 20.*

Hazard Tree Removal and Fell & Leave Treatments

Removal of hazard trees will improve the quality and benefit the function of NSO suitable habitat inside and outside of Core Areas within the proposed treatments. Benefits include a component of fell and leave (F&L) that will enhance habitat for NSO prey species inside and outside of Core Areas.

Hazard tree removal will not reduce the function or quality of NSO habitat because hazard trees proposed for removal exist as individual trees dispersed within units. Tables presented show acres of treatment in NSO habitat in the project area (Table 3b) and within Core Areas (Table 9). Acres of potential hazard tree removal in NSO NR in all units combined for the entire project are small (24ac), with an average size of 0.4ac that may include only 1-2 trees per polygon.

Figures 1a-b, below illustrates typical hazard tree removal polygons in NR habitat highlighted in yellow, showing the small spatial extent and the dispersed character of NR polygons within units. Because hazard trees will be removed by prescription (Angwin et al 2012), hazard tree removal may not occur at all in some NR polygons. If hazard tree removal occurs in these polygons, the effects will be discountable and insignificant in terms of overall function and quality of post-fire habitat.

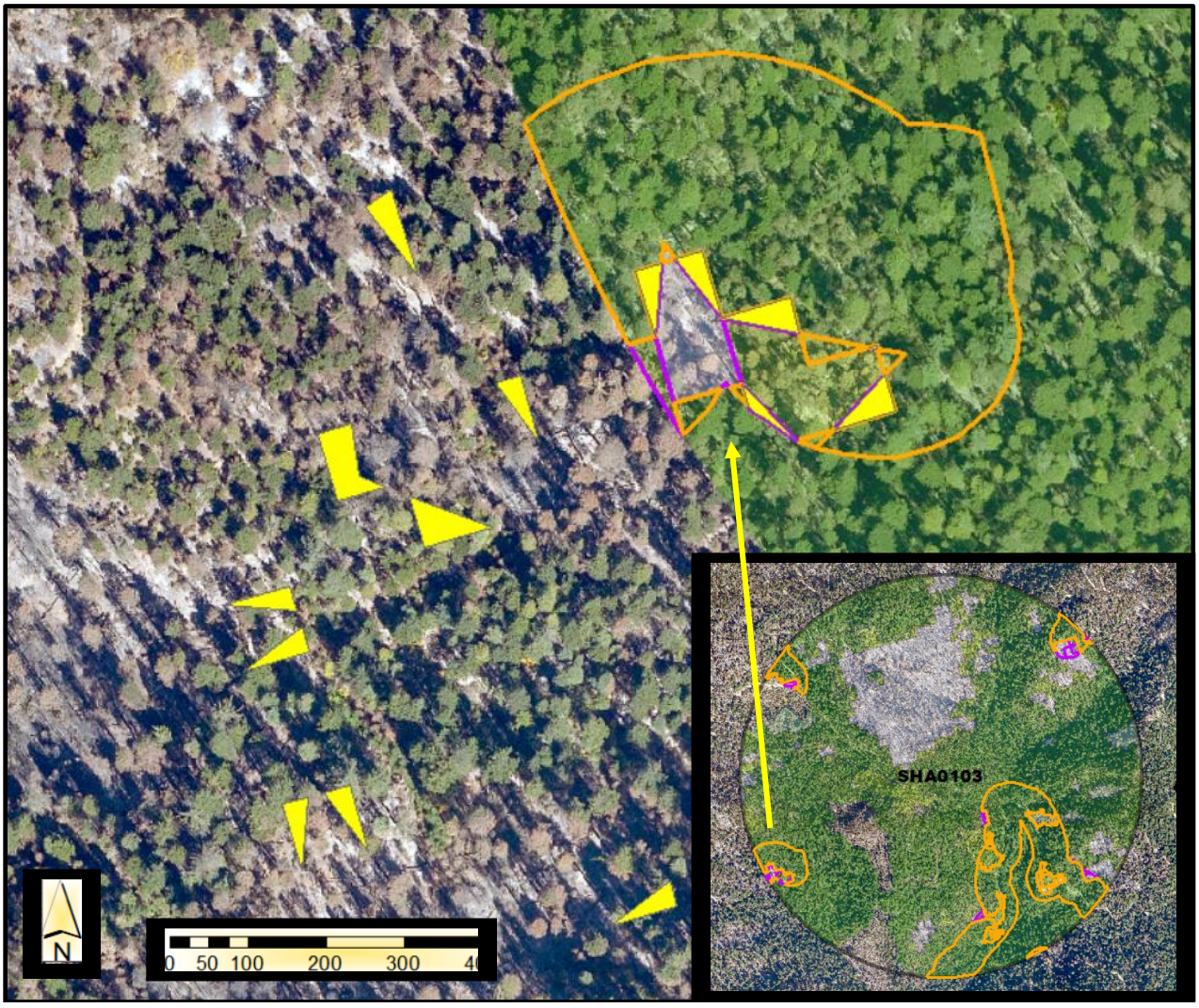

Figure 1a. Yellow polygons indicate small areas of NR along roads proposed for maintenance that overlap with areas where hazard tree removal may occur. Areas bounded by orange are where hazard trees will be felled and left. The green overlay shows post-fire NR habitat in Core Area SHA0103. This Core Area overlaps with Critical Habitat in the project area.

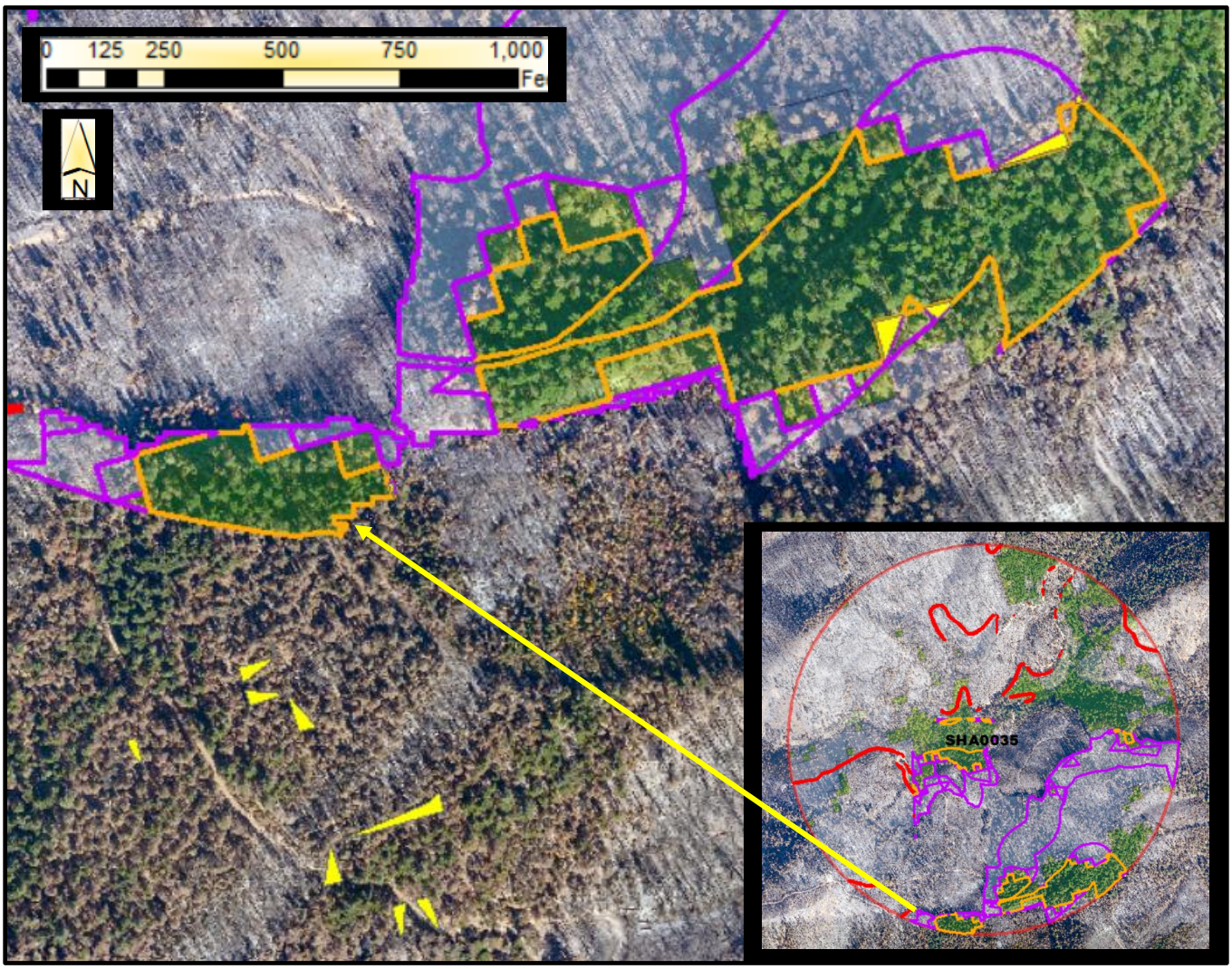

Figure 1b. Yellow polygons indicate small areas of NR along roads proposed for maintenance that overlap with areas where hazard tree removal may occur. Areas bounded by orange are where hazard trees will be felled and left. The green overlay shows post-fire NR habitat in Core Area SHA0035. This Core Area overlaps with Critical Habitat in the project area.

The majority of treatment acres in NSO habitat are in Fell and Leave (F&L) units (Table 3b), where hazard trees will be felled and left in place. As with all hazard trees in the proposed action, F&L hazard trees are an imminent threat to the public safety of road users (Angwin 2012). The addition of CWD to NSO habitat will enhance (benefit and/or maintain) these stands for terrestrial wildlife, including NSO prey species. Habitat will be further enhanced by fuels reduction that will retain the largest coarse woody debris (CWD) (RPM 58, Carr-Delta Project), including any existing CWD, while reducing smaller activity generated debris. Smaller debris will remain on site as ground cover to reduce erosion and transport and provide cover and connectivity between larger CWD (RPM 53, Carr-Delta Project). This will leave the overall condition of post-treatment areas more resilient to recurring fire, and provide greater diversity of surface habitat in recovering post-fire stands.

Prescribed Fire/Fuels Reduction

The proposed action desired conditions following unit treatments is to retain CWD at levels consistent with the Shasta-Trinity Land and Resource Management Plan (LRMP) (1994), which may include naturally occurring CWD already on site, and may be augmented by activity fuels generated by project implementation.

Naturally occurring surface fuels will not be removed from units. In units where naturally occurring surface fuels are at or above the desired range, no additional CWD will be left by project activities except in Fell and Leave units where the proposed action is to fell hazard trees and leave them in place. Where activity fuels are treated, the emphasis will be on retaining the largest CWD to enhance habitat for wildlife and on removing smaller diameter fuels to increase stand resilience to wildland fire.

Treatment of activity fuels will utilize a combination of hand, mechanical, and prescribed fire treatments with greater emphasis on pile burning. Following removal of hazard trees by a purchaser, hand and/or machine piling of activity fuels will occur in landings and alongside roads. While some breakage is typical during transport to pile burn sites, this breakage will be distributed to create soil cover consistent with LRMP standards to reduce the potential for erosion in treated areas.

Hand line to support prescribed burning activity will not always be necessary due to fire weather conditions, but may occur within 150' (downhill) and 300' (uphill) of roads proposed for maintenance to secure those sites during fuel reduction treatment. Dozers, if utilized at all, may be used on landings where larger piles are accumulated to secure those sites during fuel reduction treatment.

Broadcast burning may also be utilized to treat activity generated fuels. Due to the linear nature of the project, broadcast burning will occur within 150' (downhill) and 300' (uphill) of roads proposed for maintenance. The desired result from the use of broadcast burning in the project area is to maintain late successional structure where that potential still exists in the post-fire Carr/Delta Road Maintenance project area, or create a surface fuel profile that will enhance wildlife habitat and increase stand resilience to future fire events.

Firing techniques will be utilized that maintain suitable habitat functionality immediately post-burn. While some logs and/or shrubs in the units will be partially consumed by prescribed fire, the overall effect of broadcast burning is to create a more natural and diverse condition in surface fuels that mimics the effects of low-to-moderate wildland fire behavior. In accordance with project design features, where activity generated fuels are left to enhance levels of CWD, logs of at least 10 feet in length and 20" in diameter will be retained, if available. Otherwise, the largest available CWD will be retained for add to CWD in the treatment areas.

Timing of Prescribed Fire Activities

In a typical year, prescribed burning activities begin on or about mid-October and run until December, or when precipitation, mainly snow, limits access to areas where treatments occur. During dryer years, burn windows may extend throughout winter and up to February, when the NSO LOP begins. If burning is not completed by February, prescribed fire activities would be suspended within unsurveyed NSO Core Areas, unless protocol surveys or spot checks, as appropriate, determine that nesting is not occurring within these units. In this case, burning may resume into late spring or early summer, as safe burning conditions allow.

In the event that nesting is detected, burning would be suspended until the next window for safe burning opens up in the late fall or early winter.

Effects of hazard tree removal and fell and leave, followed by prescribed fire

Retention of activity fuels in harazrd tree removal and fell and leave areas will provide CWD for recovering stands in the Carr-Delta Project area. Figure 2, below, contains photos of residual understories in the Carr Fire showing little, if any, CWD exists in some underburned stands that experienced higher severity fire effects. Fell and leave of hazard trees and treatment of activity fuels followed by prescibed fire will achieve the outcome of reducing smaller diameter fuels while retaining larger CWD. The overall reduction of surface fuels to levels consistent with the LRMP will enhance the character of these stands in the short term for NSO prey and other terrestrial wildlife species and leave residual stands more resistent to subsequent wildland fire.

Figure 2. Photos from the 2018 Carr Fire show CWD scoured from understories by fire. November 7th, 2018.

Table 3a. NSO Habitat Effects from the Project[7]

Carr/Delta Road Maintenance Project					
Total Acres of habitat type affected by Activities	**N/R**	**F**	**D**	**Non**	**Total**
Habitat Added	0	0	0	0	0
Habitat Benefitted or Maintained	**1,298**	**514**	**493**	**2,194**	**4,499**
Habitat Degraded short term	0	0	0	0	0
Habitat Downgraded	0	0	0	0	0
Habitat Removed	0	0	0	0	0

Table 3b. NSO Habitat Effects by Treatment Type

Carr/Delta Road Maintenance Project					
Total Acres of habitat type by Activities	**NR**	**F**	**D**	**Non**	**Total**
Merchantable*	24 n=57/ =0.4	201 n=962/ =0.2	72 n=440/ =0.2	1,120	1417
Non-Merchantable*	0	0	1 n=/ =	534	535
Fell & Leave*	**1255** n=163/ =8	**294** n=487/ =0.6	**391** n=335/ =1.2	**371**	**2311**
Road Maintenance**	19	19	29	169	236
Total	1,298	514	493	2,194	4,499

* n = the number of polygons included in the count for each treatment type / = the average size of each polygon (ac)
** Road maintenance will not affect NSO habitat

Table 4a. Action Area (0.5 mile buffer) NSO Habitat Acres in LSR Land Allocation[7]

NSO Habitat Acres in RC 334 LSR – Clear Creek	N/R	F	D	Non	Total
Acres	5,044	1,388	1,777	7,246	15,455

Table 4b. Proposed Action NSO Habitat Acres in LSR Land Allocation[7]

NSO Habitat Acres in RC 334 LSR – Clear Creek (ac)	N/R	F	D	Non	Total
Habitat Added	0	0	0	0	0
Habitat Benefitted or Maintained	805	290	258	999	2352
Habitat Degraded short term	0	0	0	0	0
Habitat Downgraded	0	0	0	0	0
Habitat Removed	0	0	0	0	0

[7] This information is required for NSO Baseline Habitat Effects tracking

NSO Critical Habitat Information

1) Will the proposed action impact any designated NSO critical habitat? **Yes** ☒ **No** ☐

2) If **No**, do not complete Table 5a. If **Yes**, describe the anticipated impacts to the function of the critical habitat

Table 5b provides the acreages of treatment types within NSO Critical Habitat. Table 3b contains acreages of treatment types and the average size of polygons where treatments may occur, only if those polygons contain hazard trees. Table 5c contains acreages of Critical habitat by burn severity (Grid Code). Of the 2,173 acres of Critical habitat occurring within treatment areas, only 18 acres of hazard tree removal include trees of merchantable size. In Figures 1a-b, Core Areas shown also overlap with NSO Critical Habitat in the project area, and illustrate that the effects of removing larger hazard trees are insignificant and discountable because removal will be widely dispersed and the total acreage of removal is small.

Fell & Leave is the treatment that will occur throughout most of the Critical Habitat acres in the project area. As with all acres of NSO habitat in the project area, described above, the addition of CWD to NSO habitat will enhance (benefit and/or maintain) residual stands for NSO prey species, with retention of the largest CWD, and by providing cover and connectivity between larger CWD. This will leave the overall condition of post-treatment areas more resilient to recurring fire, and provide greater diversity of surface habitat in recovering post-fire stands.

Table 5a. Summary: Acres of Critical Habitat in the Project Area

CH Unit Name: Interior California Coast Subunit Name: ICC 7	***PBF 2 N/R***	***PBF 3 F***	***PBF 4 D***	***Non***	**Total**
Acres of critical habitat in proposed treatment units	914	322	220	718	2174

Table 5b. Acres of Critical Habitat in the action area

Carr/Delta Road Maintenance Project CH Unit Name: Interior California Coast - Subunit Name: ICC 7					
Total Acres of habitat type by Activities	**NR**	**F**	**D**	**U**	**Total**
Merchantable	18	137	31	712	898
Non-Merchantable	0	0	0	5	5
Fell & Leave	889	181	185	1	1,256
Road Maintenance	7	3	4	0	14
Total	914	321	220	718	2173

Table 5c. Acres of Critical Habitat by burn severity (Grid Code)

M-NM/F&L/Rd*	**NR** M-NM/F&L/Rd	**F** M-NM/F&L/Rd	**D** M-NM/F&L/Rd	**U** M-NM/F&L/Rd	**Total**
Grid Code 1	18/888/1	4/175/1	6/185/0	0	1,278
Grid Code 2	0	133/6/0	25/0/0	0	164
Grid Code 3/4	0	0	0	717/1/0	718
Total	907	319	216	718	2,160**

*M-NM = Merchantable/Non-Mercahntable; F&L = Fell and Leave; Rd = Road Maintenance

**Some error in Road Maintenance acres due to intersection of Project Area, Critical Habitat, and RAVG GIS shapefiles

Table 6. Critical Habitat Effects in LSR Land Allocation[8]

Critical Habitat Acres in RC 334 LSR CH Unit Name: Interior California Coast Subunit Name: ICC 7	***PBF 2*** ***N/R***	***PBF 3*** ***F***	***PBF 4*** ***D***	**Non**	**Total**
Habitat Benefitted or Maintained	583	178	89	252	1102
Habitat Degraded short term	0	0	0	0	0
Habitat Downgraded	0	0	0	0	0
Habitat Removed	0	0	0	0	0

NSO Action Area Post-Treatment Conditions

Table 7. Post-treatment Habitat Conditions in the Project Area

*Complete this information **as feasible for the Expected Post-Treatment Condition**, as not all information may be available at time of PIF submittal and presentation. This information should be complete when submitting as a PIF-BA.*				
Habitat in Post-Treatment action area *(0.5 mile buffer)*	**N/R**	**Foraging**	**Dispersal**	**Non-Habitat**
Total acres habitat	1,298	514	493	2,194
Critical Habitat Post-Treatment	***PBF 2*** ***N/R***	***PBF 3*** ***F***	***PBF 4*** ***D***	***Non***
CH subunit acres	914	322	220	718

NSO Activity Center Information

*Include **pre-and post-project** habitat conditions for cores affected by treatments. This information should be complete when submitting as a PIF-BA. Cores are represented by the 0.5 mile or ~500 acre area surrounding the activity center (AC) point; the last known nest site or roost site, or best of nighttime detections. Add rows for each AC.*

Table 8. Pre- and Post-Project Habitat Conditions for Core Areas Affected by the Project

AC ID	**Pre-Project Habitat Acres**			**Post-Project Habitat Acres**			**Last year AC occupied and status (single, non-repro pair, nesting, failed nest)**	**BDOW detections & years**	**Proposed modification of un-surveyed suitable habitat?**
	N/R	F	D	N/R	F	D			
SHA0035	66	41	11	66	41	11	2017: NSO nesting 2018: NSO male present	n/a	NO
SHA0107	77	25	133	77	25	133	2017: NSO male present	n/a	NO
SHA0020	206	35	32	206	35	32	2017: NSO male present	n/a	NO
SHA0103	355	46	14	355	46	14	1991: NSO nesting	2018 Barred owl pair	NO
SHA0121	9	58	23	9	58	23	2013: NSO pair No nesting	n/a	NO
SHA0125	66	49	17	66	49	17	2017: NSO nesting	n/a	NO

[8] This information is required for NSO Baseline tracking for critical habitat

Table 9. Acres of treatment within ACs

AC ID	Project Activities within Habitat				Habitat Effects
	N/R M/**F&L**/R	F M/**F&L**/R	D M/**F&L**/R	U M/**F&L**/R	
SHA0035	21 0.5/**20.1**/0.4	3.1 2/**0.1**/1	0.1 0/**0**/0.1	98.8	Habitat Benefitted or Maintained **123 total ac (Snag/CWD retention for future stands)**
SHA0107	6.5 0.1/**6**/0.4	4.1 1/**3**/0.1	7.1 0.7/**6**/0.4	23.3	Habitat Benefitted or Maintained **41 total ac (Snag/CWD retention for future stands)**
SHA0020	1.2 <0.1/**0.4**/0.8	8.1 1/**7**/0.1	1 0.3/**1.2**/<0.01	2.7	Habitat Benefitted or Maintained **13 total ac (Snag/CWD retention for future stands)**
SHA0103	58.4 0.4/**58**/0	5 1/**4**/0	2 0/**2**/0	3	Habitat Benefitted or Maintained **68 total ac (Snag/CWD retention for future stands)**
SHA0121	3.2 3/**0.2**/0	13 1/**12**/0	0 0/**0**/0	4.8	Habitat Benefitted or Maintained **21 total ac (Snag/CWD retention for future stands)**
SHA0125	22.4 0.4/**22**/0	11 1/**10**/0	11 1/**10**/0	118.6	Habitat Benefitted or Maintained **163 total ac (Snag/CWD retention for future stands)**
Total	**112.7**	**44.3**	**21.2**	**251.2**	

Describe any additional effects information for the cores and home ranges. If more complex or overlapping treatments are involved, include additional descriptions and tables that demonstrate this (e.g., acres of thinning overlapped by acres of fuels treatments or prescribed fire, in cores/home ranges, etc.). Please add tables or information as well if the home ranges or cores also include private lands. Provide maps and shapefiles of habitat conditions and shapefiles for the action area, as available.

Maps are included in the appendices of this document. Shapefiles will be provided electronically.

ESA Cumulative Effects

1) Is there private property in the action area, core(s) and/or home range(s)? If so, what type and what are the known ongoing or reasonably certain actions? Include any applicable information on Timber Harvest Plans (THPs) and Emergency Exemptions/Notices. *Discuss with L1 if you have questions on where to access the THP and Emergency Exemptions/Notice Information from Calfire. While a cumulative effects analysis is not required for informal consultations, it may be good to address it for NEPA purposes.*

Not needed for a may affect, not likely to adversely affect determination.

Wildlife Resource Protection Measures

1. Where applicable, limited operating periods (LOPs) will be implemented to avoid potential impacts to NSO: Refer to the maps in Appendix B for NSO Core Areas where LOPs will apply in the project area.[9]

   LOPs for this project are for noise and smoke disturbance only. This LOP, where operations are prohibited, runs from February 1st to July 9th in unsurveyed NSO Core Areas in the Action Area.

   Spot checks may be conducted for two years after full 2-year protocol surveys have been completed (USFWS 2012). Generally, spot checks are conducted between March 15th and April 15, or as access permits.

   I) For the 2019 implementation season, STNF will not conduct spot checks for units in Core Areas. Implementation will not commence in these units until July 10th or thereafter, when the LOP for noise and smoke has lapsed for the season.

   II) For the 2020 implementation season:

   - In Core Areas **SHA0035 and SHA0107**, the LOP applies unless and until spot checks indicate there is no nesting activity. If spot checks indicate no nesting activity, implementation can resume as early as April 15th, or when spot checks are completed during a 4 week time period agreed to by FS/USFWS Level 1 staff. If spot checks detect nesting activity, work will not begin until July 10th.
   - In Core Areas **SHA0020, SHA0103, SHA0121, and SHA0125**, implementation may proceed concurrently with spot checks. Work will be suspended through July 9th if spot checks indicate that nesting activity is occurring.

   III) In subsequent implementation years, for this project, either spots checks or full surveys may be required for Core Areas, as agreed by FS/USFWS Level 1 staff prior during any calendar year where implementation is planned to occur.

2. If new temporary roads are needed, they will be created outside of NSO nesting/roosting habitat as feasible, or if new temporary roads are constructed within these habitats, will ensure green trees greater than 24" DBH will be retained.

3. If new landings are needed, they will be created outside of NSO nesting/roosting habitat as feasible, or if new landings are constructed within these habitats, green trees greater than 24" will be retained.

4. Protection of Habitat and Soil Fertility: Leave 4-6 logs per acre, 20-inches in diameter at the large end and 10 feet long, where feasible, or the largest material available on site.

5. Any tail hold trees felled outside of the area to be treated will be left onsite where they lay. In NSO nesting/roosting or foraging habitats, all tail holds will be approved by a wildlife biologist or designee prior to cutting, and cutting of tail hold trees over 24" DBH in these habitat will be avoided when feasible.

6. Prescribed fire techniques could include understory burning, pile burning, or jackpot burning, with implementation taking up to 10 years. Burning will be done to create low to moderate fire behavior (flame lengths two to six feet but generally less than four feet) to meet project objectives, however flare ups and higher flame lengths and fire intensity may occur where there are higher fuel concentrations of small ladder fuels or down wood.

7. Gray Wolf (*Canis lupus*): If new information from the State or other verified sources shows there are reproducing wolves within five miles of project activities, the Forest will contact USFWS for technical assistance and discuss the need for reinitiation of consultation.

[9] Activity Centers are at the center of Core Areas.

Annual Reporting for Project Activities

Year-of-Activity Survey Results: The FS Level 1 biologist(s) will coordinate annually throughout the duration of project implementation to report survey effort and results, or PDFs that limited operations that were deemed necessary to support the determinations in this Biological Assessment.

Final (PIF-BA) Determination and Rationale for NSO and Critical Habitat:

The proposed project may affect, but is not likely to adversely affect the northern spotted owl and NSO Critical Habitat, because:

- Implementation of Limited Operating Periods will prevent disturbance or harm during the nesting season.
- All acres of suitable/dispersal habitat within units will be benefitted and maintained by project activities.
- Prescribed burning within suitable habitat/critical habitat will be designed to maintain habitat quality and functionality while reducing the risk of habitat loss due to future high severity wildfire, insects or disease.
- The project will benefit and/or maintain critical habitat in the Interior California Coast Critical Habitat Subunit (ICC 7).

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Appendices

Appendix A. Species List

Appendix B. Map of Project Units and NSO Habitat in Action Area

Appendix C. Table of Project Units that need NSO LOP

Appendix A. Carr-Delta Project species List

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Yreka Fish And Wildlife Office
1829 South Oregon Street
Yreka, CA 96097-3446
Phone: (530) 842-5763 Fax: (530) 842-4517

In Reply Refer To:
Consultation Code: 08EYRE00-2019-SLI-0089
Event Code: 08EYRE00-2019-E-00212
Project Name: Carr/Delta Fire Road Maintenance Project

March 06, 2019

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies federally threatened, endangered, and proposed species, designated critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). Please note that this list does not reflect State listed species or fulfill requirements related to any California Department of Fish and Wildlife consultation. Additionally, this list does not include species covered by the National Marine Fisheries Service (NMFS). For NMFS species please see the related website at the following link:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

If your project does not involve Federal funding or permits and does not occur on Federal land, we recommend you review this list and determine if any of these species or critical habitat may be affected. If you determine that there will be no effects to federally listed or proposed species or critical habitat, there is no need to coordinate with the Service. If you think or know that there will be effects, please contact our office for further guidance. We can assist you in incorporating measures to avoid or minimize impacts, and discuss whether permits are needed.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential effects to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be

completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

If wetlands, springs, or streams are known to occur in the project area or are present in the vicinity of the project area, we ask that you be aware of potential impacts project activities may have on these habitats. Discharge of fill material into wetlands or waters of the United States is regulated by the U.S. Army Corps of Engineers (ACOE) pursuant to section 404 of the Clean Water Act of 1972, as amended. We recommend you contact the ACOE's Regulatory Section regarding the possible need for a permit.

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html).

Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://

www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

The table below outlines lead Service field offices by county and land ownership/project type. Please refer to this table when you are ready to coordinate (including requests for section 7 consultation) with the field office corresponding to your project. Please send any documentation regarding your project to that office. Please note that the lead Service field office for your consultation may not be the office listed above in the letterhead. Please visit the following link to view a map of Service field office jurisdictional boundaries:

http://www.fws.gov/yreka/specieslist/JurisdictionalBoundaryES_R8_20150313.pdf

We appreciate your concern for threatened and endangered species. Please include the Consultation Tracking Number in the header of the letter you submit to our office along with any request for consultation or correspondence about your project.

Lead FWS offices by County and Ownership/Program

County	Ownership/Program	Species	Office Lead*
Alameda	Tidal wetlands/marsh adjacent to Bays	Salt marsh species, delta smelt	BDFWO
Alameda	All ownerships but tidal/estuarine	All	SFWO
Alpine	Humboldt Toiyabe National Forest	All	RFWO
Alpine	Lake Tahoe Basin Management Unit	All	RFWO
Alpine	Stanislaus National Forest	All	SFWO
Alpine	El Dorado National Forest	All	SFWO
Colusa	Mendocino National Forest	All	AFWO
Colusa	Other	All	By jurisdiction (see map)
Contra Costa	Legal Delta (Excluding ECCHCP)	All	BDFWO
Contra Costa	Antioch Dunes NWR	All	BDFWO

Contra Costa	Tidal wetlands/marsh adjacent to Bays	Salt marsh species, delta smelt	BDFWO
Contra Costa	All ownerships but tidal/estuarine	All	SFWO
Del Norte	All	All	AFWO
El Dorado	El Dorado National Forest	All	SFWO
El Dorado	LakeTahoe Basin Management Unit		RFWO
Glenn	Mendocino National Forest	All	AFWO
Glenn	Other	All	By jurisdiction (see map)
Humboldt	All except Shasta Trinity National Forest	All	AFWO
Humboldt	Shasta Trinity National Forest	All	YFWO
Lake	Mendocino National Forest	All	AFWO
Lake	Other	All	By jurisdiction (see map)
Lassen	Modoc National Forest	All	KFWO
Lassen	Lassen National Forest	All	SFWO
Lassen	Toiyabe National Forest	All	RFWO
Lassen	BLM Surprise and Eagle Lake Resource Areas	All	RFWO
Lassen	BLM Alturas Resource Area	All	KFWO
Lassen	Lassen Volcanic National Park	All (includes Eagle Lake trout on all ownerships)	SFWO
Lassen	All other ownerships	All	By jurisdiction (see map)

Marin	Tidal wetlands/marsh adjacent to Bays	Salt marsh species, delta smelt	BDFWO
Marin	All ownerships but tidal/estuarine	All	SFWO
Mendocino	Russian River watershed	All	SFWO
Mendocino	All except Russian River watershed	All	AFWO
Modoc	Modoc National Forest	All	KFWO
Modoc	BLM Alturas Resource Area	All	KFWO
Modoc	Klamath Basin National Wildlife Refuge Complex	All	KFWO
Modoc	BLM Surprise and Eagle Lake Resource Areas	All	RFWO
Modoc	All other ownerships	All	By jurisdiction (See map)
Mono	Inyo National Forest	All	RFWO
Mono	Humboldt Toiyabe National Forest	All	RFWO
Napa	All ownerships but tidal/estuarine	All	SFWO
Napa	Tidal wetlands/marsh adjacent to San Pablo Bay	Salt marsh species, delta smelt	BDFWO
Nevada	Humboldt Toiyabe National Forest	All	RFWO
Nevada	All other ownerships	All	By jurisdiction (See map)
Placer	Lake Tahoe Basin Management Unit	All	RFWO
Placer	All other ownerships	All	SFWO

Sacramento	Legal Delta	Delta Smelt	BDFWO
Sacramento	Other	All	By jurisdiction (see map)
San Francisco	Tidal wetlands/marsh adjacent to San Francisco Bay	Salt marsh species, delta smelt	BDFWO
San Francisco	All ownerships but tidal/estuarine	All	SFWO
San Mateo	Tidal wetlands/marsh adjacent to San Francisco Bay	Salt marsh species, delta smelt	BDFWO
San Mateo	All ownerships but tidal/estuarine	All	SFWO
San Joaquin	Legal Delta excluding San Joaquin HCP	All	BDFWO
San Joaquin	Other	All	SFWO
Santa Clara	Tidal wetlands/marsh adjacent to San Francisco Bay	Salt marsh species, delta smelt	BDFWO
Santa Clara	All ownerships but tidal/estuarine	All	SFWO
Shasta	Shasta Trinity National Forest except Hat Creek Ranger District (administered by Lassen National Forest)	All	YFWO
Shasta	Hat Creek Ranger District	All	SFWO
Shasta	Bureau of Reclamation (Central Valley Project)	All	BDFWO
Shasta	Whiskeytown National Recreation Area	All	YFWO
Shasta	BLM Alturas Resource Area	All	KFWO
Shasta	Caltrans	By jurisdiction	SFWO/AFWO

Shasta	Ahjumawi Lava Springs State Park	Shasta crayfish	SFWO
Shasta	All other ownerships	All	By jurisdiction (see map)
Shasta	Natural Resource Damage Assessment, all lands	All	SFWO/BDFWO
Sierra	Humboldt Toiyabe National Forest	All	RFWO
Sierra	All other ownerships	All	SFWO
Siskiyou	Klamath National Forest (except Ukonom District)	All	YFWO
Siskiyou	Six Rivers National Forest and Ukonom District	All	AFWO
Siskiyou	Shasta Trinity National Forest	All	YFWO
Siskiyou	Lassen National Forest	All	SFWO
Siskiyou	Modoc National Forest	All	KFWO
Siskiyou	Lava Beds National Volcanic Monument	All	KFWO
Siskiyou	BLM Alturas Resource Area	All	KFWO
Siskiyou	Klamath Basin National Wildlife Refuge Complex	All	KFWO
Siskiyou	All other ownerships	All	By jurisdiction (see map)
Solano	Suisun Marsh	All	BDFWO
Solano	Tidal wetlands/marsh adjacent to San Pablo Bay	Salt marsh species, delta smelt	BDFWO
Solano	All ownerships but tidal/estuarine	All	SFWO
Solano	Other	All	By jurisdiction (see map)

Sonoma	Tidal wetlands/marsh adjacent to San Pablo Bay	Salt marsh species, delta smelt	BDFWO
Sonoma	All ownerships but tidal/estuarine	All	SFWO
Tehama	Mendocino National Forest	All	AFWO
Tehama	Shasta Trinity National Forest except Hat Creek Ranger District (administered by Lassen National Forest)	All	YFWO
Tehama	All other ownerships	All	By jurisdiction (see map)
Trinity	BLM	All	AFWO
Trinity	Six Rivers National Forest	All	AFWO
Trinity	Shasta Trinity National Forest	All	YFWO
Trinity	Mendocino National Forest	All	AFWO
Trinity	BIA (Tribal Trust Lands)	All	AFWO
Trinity	County Government	All	AFWO
Trinity	All other ownerships	All	By jurisdiction (See map)
Yolo	Yolo Bypass	All	BDFWO
Yolo	Other	All	By jurisdiction (see map)
All	FERC-ESA	All	By jurisdiction (see map)
All	FERC-ESA	Shasta crayfish	SFWO
All	FERC-Relicensing (non-ESA)	All	BDFWO

***Office Leads:**

AFWO=Arcata Fish and Wildlife Office

BDFWO=Bay Delta Fish and Wildlife Office

KFWO=Klamath Falls Fish and Wildlife Office

RFWO=Reno Fish and Wildlife Office

YFWO=Yreka Fish and Wildlife Office

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Yreka Fish And Wildlife Office
1829 South Oregon Street
Yreka, CA 96097-3446
(530) 842-5763

This project's location is within the jurisdiction of multiple offices. Expect additional species list documents from the following office, and expect that the species and critical habitats in each document reflect only those that fall in the office's jurisdiction:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Consultation Code: 08EYRE00-2019-SLI-0089

Event Code: 08EYRE00-2019-E-00212

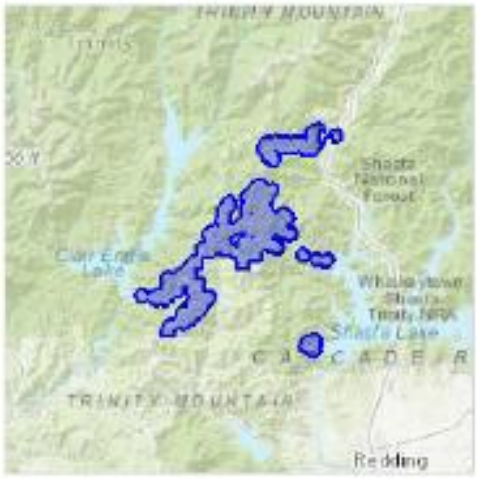
Project Name: Carr/Delta Fire Road Maintenance Project

Project Type: VEGETATION MANAGEMENT

Project Description: The purpose of this project is to address the current maintenance needs of selected roads within the Carr and Delta Fire footprints on National Forest System lands as well as roads used to access both fires.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/40.984538165286786N122.49235048045853W



Counties: Shasta, CA | Trinity, CA

Endangered Species Act Species

There is a total of 13 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Gray Wolf *Canis lupus* Population: U.S.A.: All of AL, AR, CA, CO, CT, DE, FL, GA, IA, IN, IL, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, ND, NE, NH, NJ, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, and WV; and portions of AZ, NM, OR, UT, and WA. Mexico. There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/4488	Endangered

Birds

NAME	STATUS
Northern Spotted Owl *Strix occidentalis caurina* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **proposed** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened
Longfin Smelt *Spirinchus thaleichthys* Population: San Francisco Bay delta DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9011	Candidate

Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
Conservancy Fairy Shrimp *Branchinecta conservatio* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8246	Endangered
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

Flowering Plants

NAME	STATUS
Hoover's Spurge *Chamaesyce hooveri* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3019	Threatened
Slender Orcutt Grass *Orcuttia tenuis* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1063	Threatened

Conifers and Cycads

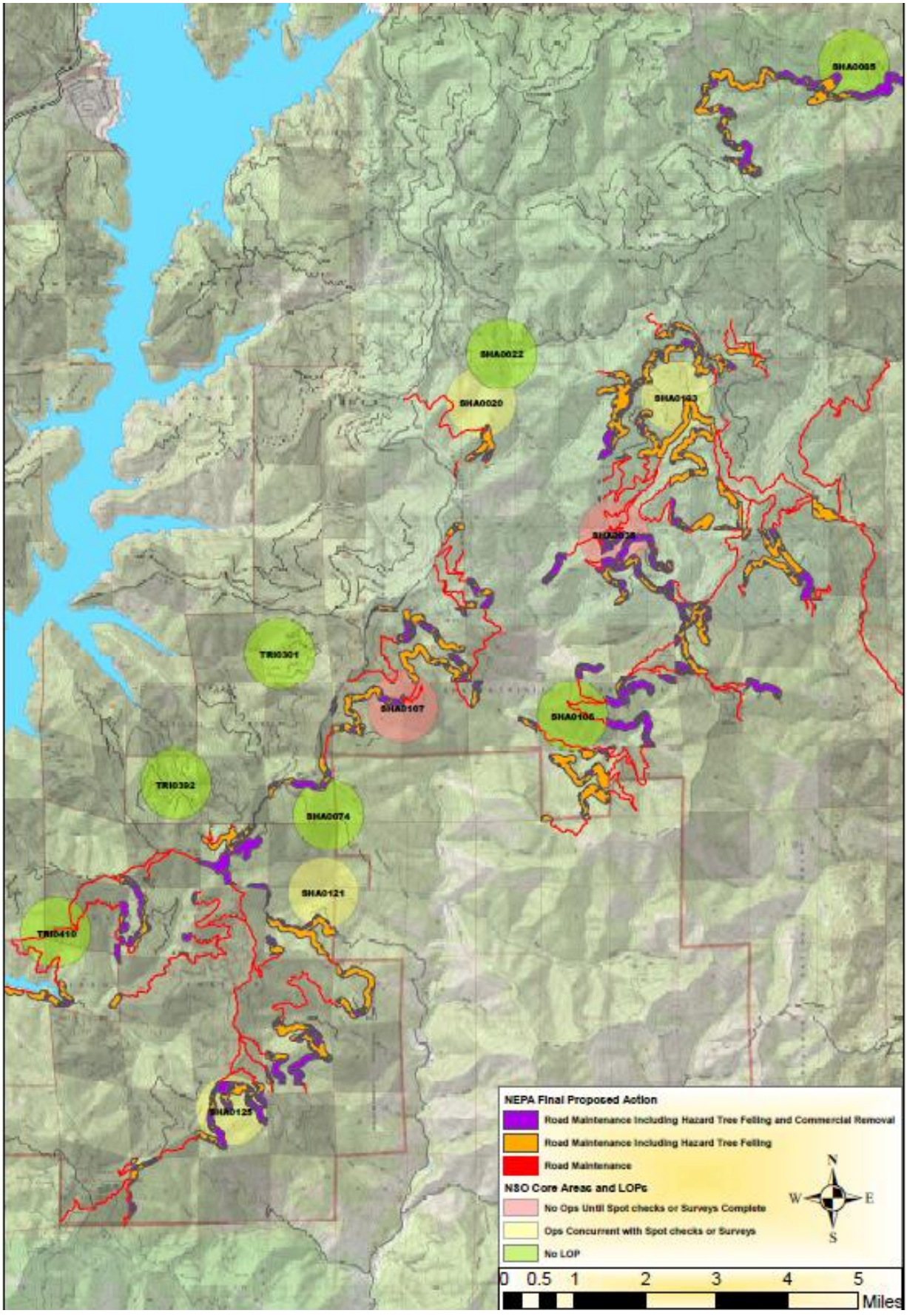
NAME	STATUS
Whitebark Pine *Pinus albicaulis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1748	Candidate

Critical habitats

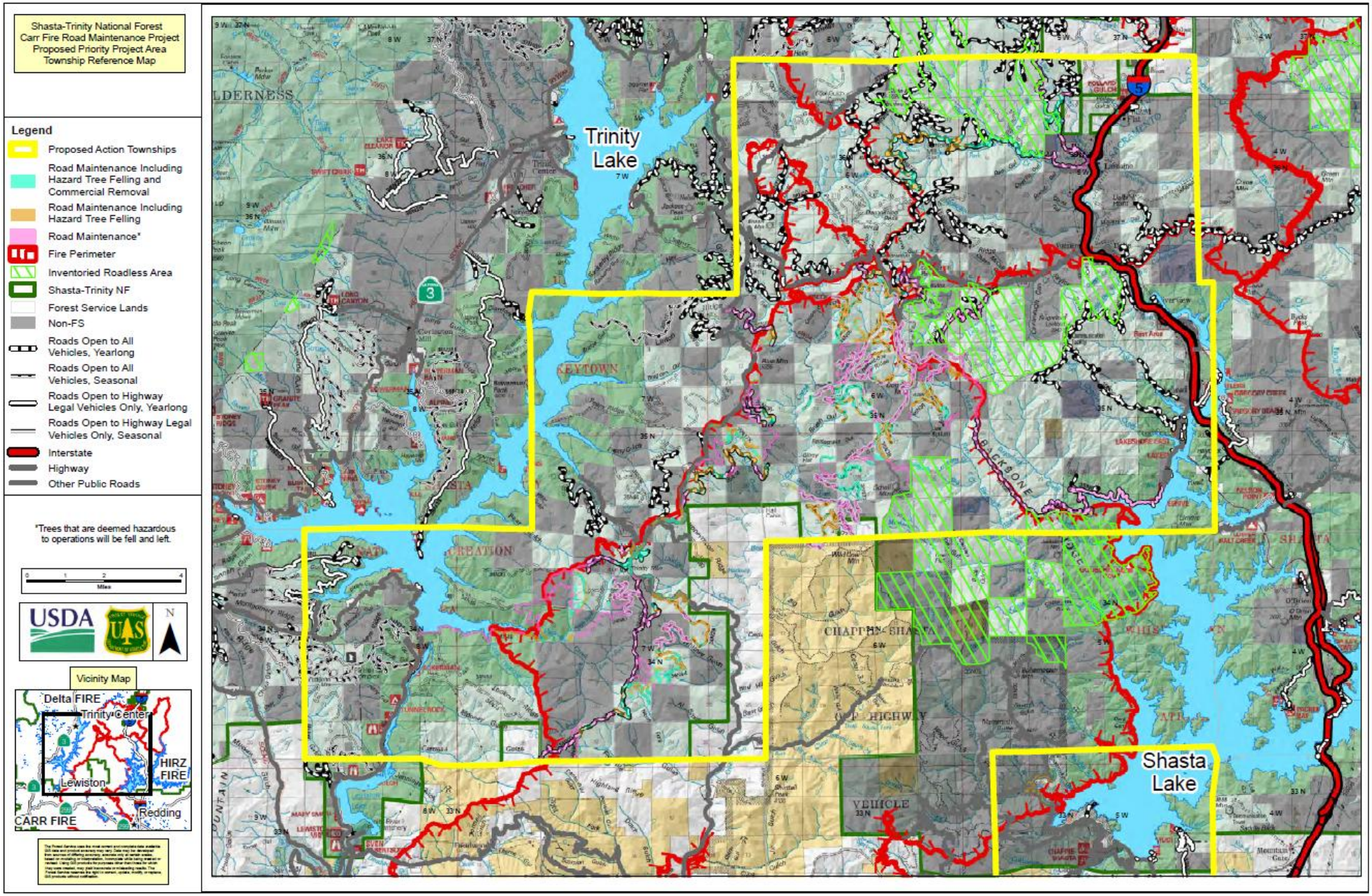
There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Northern Spotted Owl *Strix occidentalis caurina* https://ecos.fws.gov/ecp/species/1123#crithab	Final

Appendix B. Map of Project Units and NSO Habitat in Action Area



Appendix B. Map of Project Units and Proposed Activities in Action Area



Appendix C: Proposed Seasonal Restrictions for Hazard Tree Removal and Fuels Reduction in Core Areas/Activity Centers, and for Road Maintenance throughout the Action Area

Dates	**YES**	**NO**	**List Applicable Units** *(if using this as a PIF-BA)****
None	X		Activities that do not impact NRF habitat and do not generate loud and continuous noise and/or smoke (2 or more hours/day), including road work that is transitory (does not remain in one location). 002, 005, 009, 010, 011, 013, 014, 015, 016, ,017, 018, 019, 021, 022, 023, 024, , 025, 026, 027, 028, 029, 030, 031, 033, 034, 036, 038, 040, 043, 046, 047, 050, 055, 100, 101, 102, 111, 112, 121, 122, 123, 131, 132, 133, 141, 162, 165, 181, 182, 191, 201, 202, 241, 242, 243, 244, 245, 246, 251, 252, 253, 254, 255, 281, 302, 303, 331, 332, 333, 334, 335, 341, 343, 381, 401, 402, 421, 431, 432, 451, 452, 453, 454, 462, 463, 501, 541, 542, 543, 544, 545, 546, 547, 548, 549, 561, 562, 563, 564, 571, 572
2/1 to 7/9	X		Units/activities where loud and continuous noise or smoke-generating activities may occur within occupied or unsurveyed Core Areas/Activity Centers. SHA 125: 32, 321, 327, 326, 328, 322, 323, 324, 325 SHA 121: 012 SHA107: 301 SHA0035: 163, 164, 166, 161 SHA0103: 461, 342 SHA0020: 502